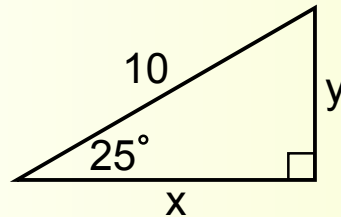


Alg. 2 Warm Up # 2-5

1. What does SOHCAHTOA stand for?

2. Solve for x and y:



3. Find the distance between (2, 3) and (9, 7)

3. Find the distance between (2, 3) and (9, 7)

$$d^2 = a^2 + b^2$$

$$d = \sqrt{a^2 + b^2}$$

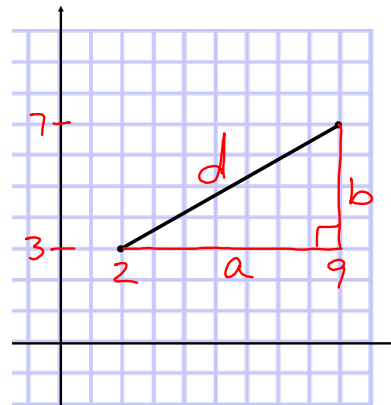
$$d = \sqrt{(9-2)^2 + (7-3)^2}$$

$$d = \sqrt{7^2 + 4^2}$$

$$d = \sqrt{49 + 16}$$

$$d = \sqrt{65}$$

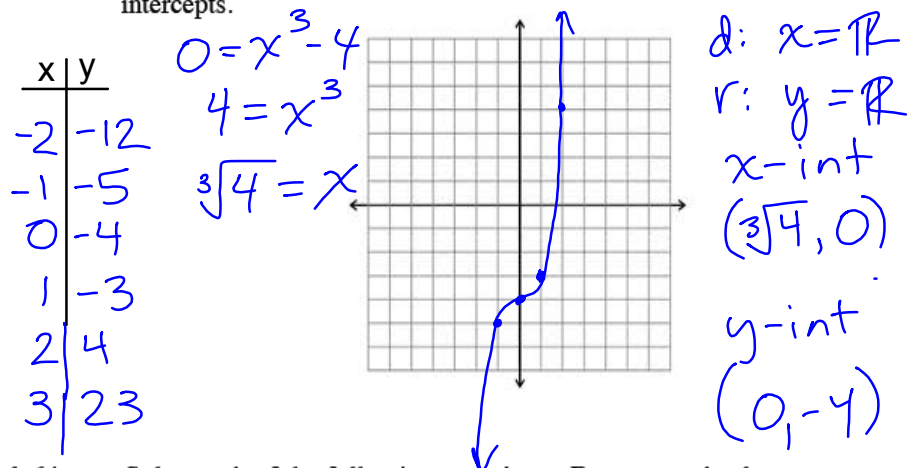
$$d \approx 8.06$$



HW Questions:

Preview

- 1-59. Make a table and graph for $h(x) = x^3 - 4$. Find the domain, range, and intercepts.

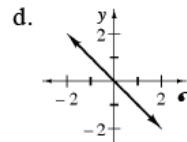
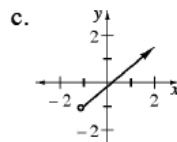
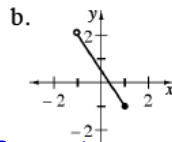
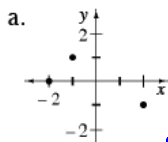


- 1-64. Solve each of the following equations. Be sure to check your answers.

a. $\frac{6}{x} = x - 1$

b. $\frac{9}{x} = x$

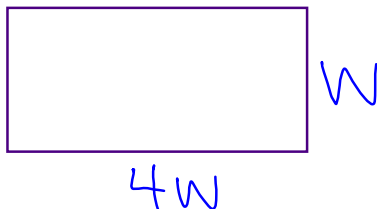
- 1-68. Find the domain and the range for each of the following functions.



- d: $x = -2, 1, 2$
 r: $y = -1, 0, 1$
- d: $-1 < x \leq 1$
 r: $-1 \leq y < 2$
- d: $x > -1$
 r: $y > -1$
- d: $x = \mathbb{R}$
 r: $y = \mathbb{R}$

- 1-69. Write one or two equations to help you solve the following problem.

A rectangle's length is four times its width. The sum of its two adjacent sides is 22 cm. How long is each side?



$$4W + W = 22$$

1-71. Consider $f(x) = x^2 - 2x + 6$ and $g(x) = 2x + 11$.

- Use any method to find the points of intersection of $f(x)$ and $g(x)$.
- Calculate $f(x) + g(x)$.
- Calculate $f(x) - g(x)$.

$$\begin{aligned} x^2 - 2x + 6 &= 2x + 11 \\ -2x - 11 &\quad -2x - 11 \end{aligned}$$

$$\begin{aligned} x^2 - 4x - 5 &= 0 \\ (x - 5)(x + 1) &= 0 \\ x &= 5, -1 \end{aligned}$$

$\left. \begin{array}{l} (5, \quad) \\ (-1, \quad) \end{array} \right\}$ Plug into one of the original equations.

Methods

Algebra: = Values
Method

or

Graphing

- Use the calculate function to find intersections on graphing calculator
- Use the table and look for same outputs.

1-76. What value of x allows you to find the y -intercept? Where does the graph of each equation below cross the y -axis? Write each answer as an ordered pair.

a. $y = 3x + 6$

b. $x = 5y - 10$

c. $y = x^2$

d. $y = 2x^2 - 4$

e. $y = (x - 5)^2$

f. $y = 3x^3 - 2x^2 + 13$

Make sure you have **Name, Period, and Team #** upper right corner!

Take out your CP's from this week:

Staple with warm up on top

1- #26 ---> 30

1- #41 ---> 44

Tan CP's: 1- #53, 55 ---> 57

10 minutes to go over packet with your team.

CP: 1-78, 79 p. 33

1.2.2 How can I investigate a function?

Function Investigation



What does it mean to describe a function completely? In this lesson you will graph and investigate a family of functions with equations of the form $f(x) = \frac{1}{x-h}$. As you work with your team, keep the multiple representations of functions in mind.

1-78. INVESTIGATING A FUNCTION, Part One

Your team will investigate functions of the form $f(x) = \frac{1}{x-h}$, where h can be any number.

As a team, choose a value for h between -10 and 10 . For example, if $h = 7$, then $f(x) = \frac{1}{x-7}$.

Your Task: On a piece of graph paper, write down the function you get when you use your value for h . Then make an $x \rightarrow y$ table and draw a complete graph of your function. Is there any more information you need to be sure that you can see the entire shape of your graph? Discuss this question with your team and add any new information you think is necessary.



Discussion Points

How can we be sure that our graph is complete?

How can we get output values that are greater than 1 or less than -1 ?

HW: 1-

#60, 65, 67, 70, 72 - 74

Bring your Math Spiral to class on Monday!